



# Astronomical clues in unicorn iconography of the Harappan civilization

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## Abstract

Unicorn imagery on the seals of the Harappan civilization (HC) is shown to be a chimera. This study tries to interpret the iconography of the unicorn and the associated cult object in terms of interrelated myths—specifically Vedic myths around *Prajāpati* as *Mṛgaśiraṣa* (Orion). A reading of composite seal M1171 depicting the body of a bull with protomes of a bull, unicorn and an antelope strengthens our interpretation. The research implies that the Mature Phase of the HC within the timeframe of ~2600–1900 BCE may reveal memories of the Vedic astronomy as we understand it since millennia.

**Keywords** Harappan civilization · *Mṛgaśiraṣa* · Orion · *Prajāpati* · Unicorn · Vedic astronomy

## 1 Introduction

The ancient Egyptian, Sumerian and Harappan civilizations of the Bronze Age were contemporaneous around respective mature phases. The first two civilizations left behind impressive structures and mythologies; what helped our understanding was the decipherment of the respective scripts as we have copious textual records available from that era to help the efforts. Harappan script remains to be deciphered to date. In the accepted chronology of Harappan civilization (HC) the Integration Era, generally known as the Mature Phase, occurred between ~2600 and 1900 BCE. Subsequently, during or after the Late Harappan Phases that extended as late as ~1300 BCE, the language or the script or both ceased to be known or understood as per the present understanding (Kenoyer, 2010, pp. 106–22).

Outline of the proposed work: The present work centers on providing a logically consistent solution to the enigma that is the Harappan unicorn based on an inferential approach supported by factual references, and to an extent conjectural as well as speculative reasoning. The running theme is that the Mature Phase of the HC (~2600–1900 BCE) may reveal

what we understand as the Vedic myths interpreted from the available texts. We establish the unicorn as a chimera (Sect. 2.4)—bull with the protome of an antelope. Section 3 follows the idea that the Harappan seals collectively interpret the iconography of the unicorn with associated features and the cult object under its head in terms of Vedic myths around *Prajāpati* as *Mṛgaśiraṣa* (Orion). The trigger for the present research has been the monograph titled “*The Orion, or Researches into the Antiquity of the Vedas*”<sup>1</sup> by Bal Gangadhar Tilak (2008, originally 1893) wherein he dissects in detail the myths associated with *Mṛgaśiraṣa* (Orion) in the context of the ancient Hindu calendar systems.

## 2 Unicorn iconography in Harappan context

### 2.1 Unicorn iconography on Harappan seals

The defining artifacts of the HC in the present context are ~5 cm side square steatite seals, occasionally on other inscribed media too, encoding on average a text comprising ~five glyphs, majorly having an animal or a chimera or other iconography etched on the lower part. The animals include bison, bull, elephant, buffalo, and others, all these

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<sup>1</sup> The four principal *Vedas*, *Rg-*, *Sāma-*, *Yajur-* and *Atharva- Veda*, are each traditionally subdivided into four functional texts: the *Samhitās* (main texts), the *Brāhmaṇas* (on rituals, ceremonies, sacrifices), the *Aranyakas* (commentaries on rituals, ceremonies and sacrifices), and the *Upaniṣads* (text discussing meditation, philosophy and spiritual knowledge).



**Fig. 1** Unicorn seal with perforated boss on the back. © Harappa.com 1995–2020



**Fig. 2** Left: unicorn with the horn pointing forward, a saddle-like pattern across the shoulder and the cult object under the head; Right: Indian gazelle.

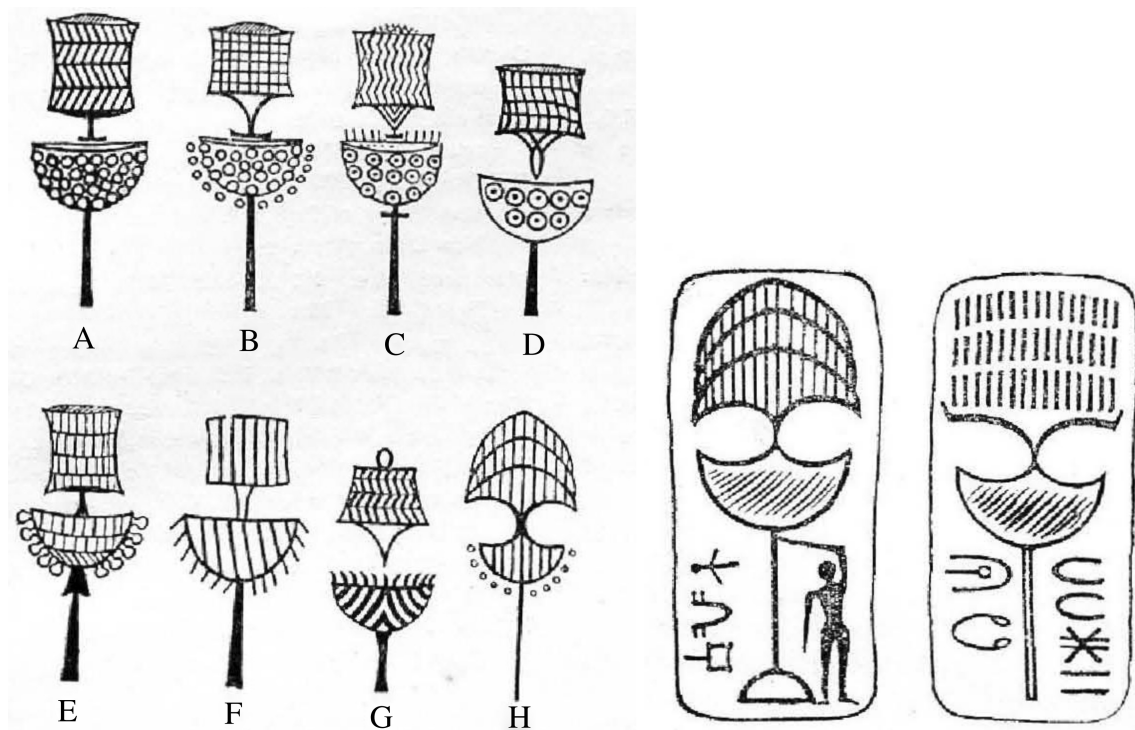
on relatively small number of seals. By far the most dominant iconography on the seals is that of a single-horned animal referred to as unicorn that adorns the bottom half of a vast majority of Harappa seals; there is invariably a standard under its head (Fig. 1) and apart from the single horn pointing forward, there is a saddle like feature across the shoulder and curvilinear patterns around the neck and head of the unicorn. There is a perforated boss on the reverse side indicating the seals are meant to be worn with a thread running through.

Mark Kenoyer (2013, pp. 107–125) points out that a number of terracotta figurines of a unicorn bull in three-dimensional form, found at Chanhudaro and other sites, confirm that the Harappans indeed conceived of the

unicorn as a one-horned animal. Appearance of unicorns on seals and figurines seems to be closely linked to the initial phase of the Integration era, 2600–2450 BCE (ibid., pp. 107–125). From the Late Harappan period beginning ~1900 BCE, the use of unicorn and related iconography was no more apparent in the disintegrating urban centers. Possehl (1996, pp.27–35) gives a fairly comprehensive review of unicorn seals.

Parpola (2018, p. 138) refers to legends woven around *R̥ṣyaśṛṅga* (found in *Purānic* sources from post Vedic era as also in Jain and Buddhist texts), ascetic with a single small horn born of a doe, invariably having an association with a seductress which results in removal of prolonged drought in the region—the *tapās* of the ascetic, I prefer to





**Fig. 3** Left: Various profiles of the standard under the unicorn head; Right: Stand alone standard on seals; from Mahadevan 1981–1983.

call it accumulated energy, that parallel the scorching heat of the Sun culminating at the Summer Solstice. Interestingly, this legend appears to hint at certain parallels with the much older *Mṛgaśiraṣa* myths (Sect. 4).

**The Horn:** The “S” shape is highly suggestive of the horn of the Indian gazelle (*Chinkara*). The horn of an antelope goes backwards over the head whereas the unicorn horn goes forward (Fig. 2). The horn has been generally depicted ridged, occasionally it is shown smooth. Clearly then the unicorn horn is also an incorporated element as it were, of the chimera that the Harappan unicorn is shown to be (Sect. 3). Its depiction as a single horn is well attested by what appears to be toy figurines emulating the unicorn of the square seals (Kenoyer, 2013, pp. 107–125). There are depictions with two horns on a few seals which however generally curve backward as would be in the real case of a deer. In passing, mention may be made of the Vedic priests (*hotr*) who carried S-shaped antelope horn tied around the shoulder; known as *Kanduyanee*; it was used to scratch the back during Vedic rituals!

**The saddle-like feature across the unicorn shoulder:** This feature gives the unicorn a ceremonial appearance (Fig. 2, Left). The uniformity of this artwork primarily varies to the extent of number of lines making the shape, from one to three lines. In the present context, one needs to identify a purpose.

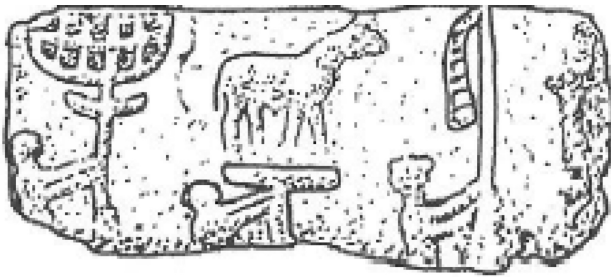
## 2.2 Standard under the unicorn head

Almost over a century since the HC started unfolding in right earnest, it is amazing to note that the overwhelming frequency of the togetherness of the unicorn and the standard under its head on the seals have not been considered a related story, a related myth.

There are a few seals with bison as the primary motif where there is a manger under its head and the animal appears interested in the contents. Again there are a very few occasions where the standard appears by itself, accompanied by text (Fig. 3, Right; from Fig. 1 of Mahadevan 1981–1983). The top segment generally has an appearance of a straight or tapered cylindrical object, with a slight waist in the middle (concave shape). This is connected on the bottom to a hemispherical bowl with appearance of droplets oozing out in several images (Fig. 3; also Fig. 10 in Possehl, 1996, p. 32). The designs on the standard show significant variation; the standard as a whole has a decorative appearance, suggestive of social and ceremonial function.

There are varied speculations on the meaning and purpose of the standard: It has been variously projected as a feeding trough, an incense burner, offering stand, cult object and so on. Rao (1982) identifies the same as a Fire Alter or fire post in a monograph that essentially deals with his decipherment of the Harappan script that is traced primarily to *R̥gvēda*.





**Fig. 4** Left to Right: the standard, unicorn on a base and a pennant carried together in procession. Adopted from Mahadevan (Gopal 1983, p. 210); originally Marshall (1931, p. 382, Plate CXVIII, 9).

Fire Alter is associated with *Agni*, the most revered deity in the *R̥gvēda*. It may be noted that *Prajāpati* is also *Agni* (*Yajnya*, and *Indra*) in the *Samhitās* (Sect. 4.2). Rao puts in considerable effort on this interpretation. He cites the almost total absence of this device in seals depicting other animal motifs, however the almost total association of this device with the unicorn on the seals is observed but he does not pursue this thread. Worship of fire and fire alters are attested during the excavations at Lothal and Kalibangan (Sects. 3.2, 4.2).

On the other hand the cult object has been vigorously projected by I. Mahadevan (1981–1983, p. 4) as a Sacred Filter, again with primary references from *R̥gvēda* on *Soma* making ritual to support his interpretation (Sect. 4.3). And as quoted by Mahadevan (1998) in an interview, a model ivory piece ~2 cm high depicting the standard befitting a *Soma* Filter in physical form has been found in excavations (Kenoyer, 2013, p. 86 and Fig. 5.12–cited from reference in Frenez, 2017, pp. 166–193). Frenez states that in absence of factual evidence, this enigmatic object cannot be connected to the preparation of any specific beverage or food as proposed in Mahadevan (1981–1983). Possehl (1996, p. 35) on the other hand states that “Some of the correspondences are very close, and this side of Mahadevan’s argument cannot be simply dismissed”. We shall return to this again later on in Sect. 4.3.

### 2.3 Unicorn and the associated Standard in procession

There are a few tablets from Mohenjo-daro and Harappa where the unicorn and/or the standard are shown being carried in a procession. Figure 4 shows one such terracotta tablet, M-491 from Mohenjo-daro. Another tablet from Harappa shows only the ‘offering stand’ held by a man [Fig. 5c- tablet H-196 (2262), cited by Parpola, 2011]. In an Academia posted pdf., S. Kalyanaraman (2016, p. 58) refers to the remains of a mosaic panel found by André

Parrot in 1933–34 during excavation of Ishtar temple of the city of Mari on the Euphrates in northern Mesopotamia. Relevant to the present context, there is a single horned bull carried at the top of a pole in a procession. The panel is dated to Late Early Dynastic Period around 2500–2400 BCE, “the time when the Harappans probably took over unicorn and several other art motifs from Mesopotamia” (Parpola 2011). Kalyanaraman also shows various friezes from the region depicting rows of single horned bulls. Also one side of the Narmar Plate depicts a victory procession with one horn bull and other Egyptian icons carried at the top on long poles (~3100 BCE; Fig. 2.6 in Brosch 2008 for example).

### 3 Unicorn is a chimera

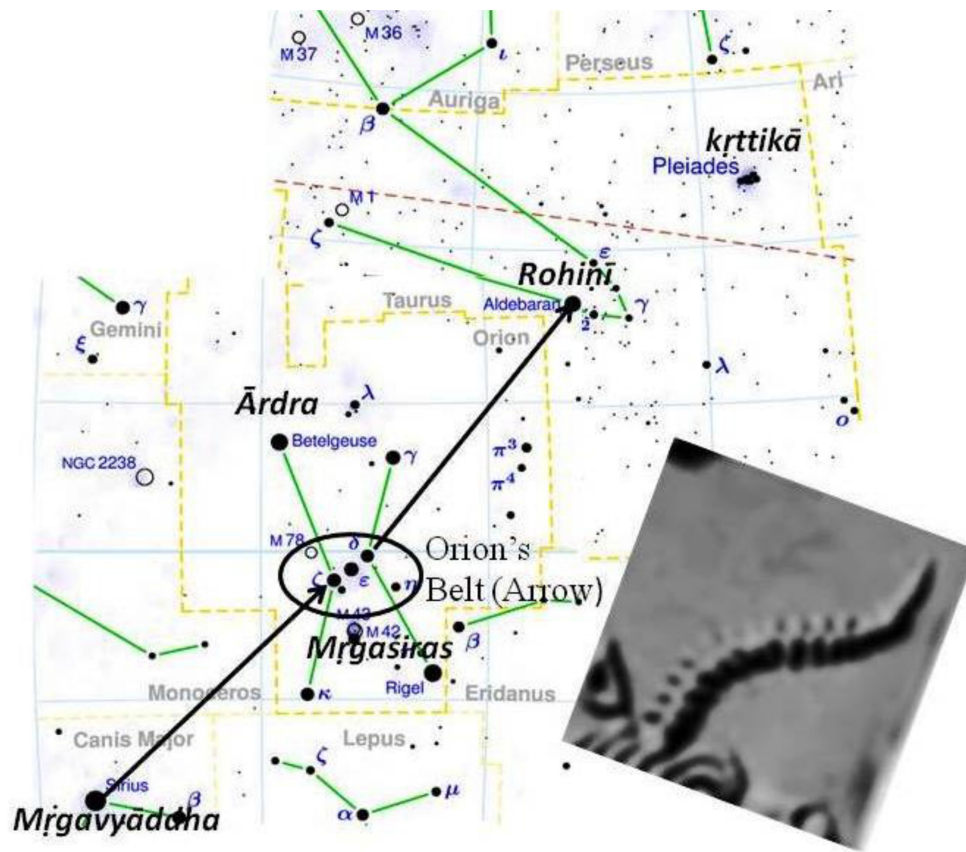
Figuratively speaking, unicorn is the mascot of HC. There have been continuing speculations on the identity of the HC unicorn: From possible existence of an actual unicorn in antiquity or a bull species in profile to stretching the imagination to accommodate animals of that era having some semblance of a horn. Auroch or taurine bull that was originally a West Asian variety loses out on account of the short, thick neck—recall the relatively slender neck of the unicorn on the seals of HC (Fig. 1), and of course the shape and size of the horns; to interpret unicorn as a bull is certainly a stretch. Simply put, the comparisons made with the Sumer/Akkad unicorn bull, as also opinions expressed that perhaps that is where the unicorn motif came from (Parpola 2011), one thing should be absolutely clear that the Mesopotamian bull is a *bull from head to tail*, no mistaking that, and its horn is distinctly that of a bull should also be clear.

*Nīlgāi* (a large deer having bluish hue, commonly seen in the Indian sub-continent; Parpola 2011) or related antelope species have the sexual organ at a wrong place—certainly the Harappan artisans will not make this mistake given the primacy of the bovines (bull) in the culture. And none have the gazelle horn turned other way round as in case of the Harappan unicorn.

On the other hand, the features of the ubiquitous unicorn in HC all point to it being a composite animal. The main body has the appearance of a bull without hump. The unicorn head is that of an antelope, certainly helped by the shape of the horn as also the ears. Marshall (1931, p. 382) state that “....The long pointed ears are also characteristic of the antelope. Perhaps we have here a fabulous animal which is a composite of the ox and antelope”.

Another feature of the unicorn head is the varying number of ring patterns near the head and the upper neck—a feature that is found on some species of the real world antelopes. Then again many of the ancient Greek references to the unicorn believed to have been present in India as a beast of





**Fig. 5** *Nakṣatras* associated with the *Mṛgāsīraṣa* myth.

varied description invariably has the head of a deer (Parpola 2011; or a horse).

As noted earlier, the s-shaped horn in the case of the unicorn *points forward* (in an aggressive posture?); add to that the fact of a single horn, not two. The missing hump (in case the bull is not a hump-less variety), I am speculating here, may have gone when the bull acquired the protome of an antelope (Sect. 4.5). Once we accept the HC unicorn as obviously a chimera, three-in-one as it were, no assumptions or compromises need be made trying to fit-in some imaginary real-life unicorn itself, or distorting some other real world animal from that era from a wide geographical net. There are several portrayals of chimera on the Harappan seals from hybrids to multi-headed animals—given the limited space available on the seals and their as yet unclear meaning, the fact remains that we have a message here and it is most certainly associated with some myth or other. Why should the unicorn motif be any different?

As we shall presently see, our analysis of the unicorn iconography as an expression of Vedic myths fits the chimera model wonderfully and the identification of the associated standard, the cult object, proceeds logically with this understanding.

## 4 Vedic myths in unicorn iconography

### 4.1 Advent of astronomy and calendar in ancient civilizations

It is well recognized that astronomy and myths (as also religious beliefs by any definition) arose very early in civilizations and evolved with increasing complexity. Any developed ancient civilization that had its own understanding of astronomy would over a period certainly develop a working calendar to predict seasons to start with, and then employ it for agriculture, liturgical, navigation purposes, and so on. The Egyptians, the Sumerians and the Mayans in the western Hemisphere had it. We must then be certain that the socially, technologically and commercially developed HC that was spread over a huge swath of land in the West and Northwest region of the Indian Subcontinent and beyond, functional for more than a few thousand years in various phases must also have its own astronomy and a calendar by association.

The *nakṣatras*, the asterisms/constellations along the ecliptic, are lunar mansions in the astronomy of the Indian subcontinent. The following names of the *nakṣatras* with a section of the Ecliptic are referred to in the present study





**Fig. 6** Harappan seal M-1171, a composite iconography uniting protomes of a bull, a unicorn and a gazelle.

along with equivalent modern identifications (Fig. 5): *ḱṛttikā*–Pleiades, *Rohiṇī*–Aldebaran, *Mṛgaśiraṣa* & *Ārdrā*–Orion and *Punarvasu*–Pollux in Gemini. And we have ~40 degrees from the Ecliptic, the *Mṛgavyādhā* (also called *Śvna*, the Dog)—Sirius, the Dog Star. Sirius in Egyptian mythology plays a very significant part; some of the myths have parallels in the present study.<sup>2</sup> In the present work we shall not address the Vedic astronomy that relates to the calendar systems of the ancient period.

## 4.2 Relevant *Prajāpati* myths

In the ancient cultures, earthly traditions/events were allegorically associated with the heaven and heavenly bodies leading to a myth being born. Let us consider the Harappan unicorn from the perspective of relevant Vedic myths. In Hindu mythology, *Rohiṇī* (meaning red, also the Dawn, *uṣās* and occasionally a cow) is the daughter of *Prajāpati*, a creator god. In Egyptian mythology too, one of the names

<sup>2</sup> In ancient Egypt, the most important heliacal rising has been that of *Sirius*, the brightest star in the Northern Hemisphere (Brosch 2008, p. 9; goddess *Sopdet*, and of fertility of Nile; also *Isis*) around the onset of Summer Solstice, observed since at least 3000 BCE, a coincidence of association with beneficial flooding of the Nile. Interestingly, in Vedic lore, this star was also referred to as *Śukra*, the rain god. Again in ancient Egypt, Orion was regarded as a god, called Sah. Because Orion rises before Sirius, Sah was closely linked with *Sopdet*; Isis as Sirius has Orion as a consort. The Orion constellation has an identification as a hunter as well as association with several myths of Greek and later Roman origin.

for Aldebaran (*Rohiṇī*) is Dawn (Brosch 2008). According to Joshi (1972, pp.101–125):

*Prajāpati*, appears twice in *Ṛgvēda* as an epithet of *Savitṛ* (the Sun; IV, 53. 2) and of *Soma* (IX, 5. 9); as a distinct deity he occurs four times in tenth *Maṇḍala* (X. 85. 43, 121. 10, 169.4 and 184.1), and there is one hymn in his name (X. 121). *Prajāpati* is also *Agni* (*Yajñya*) and *Indra* in the *Samhitās*.

*Prajāpati* translates as, and essentially represents, a god of procreation. There are several passages in the *Samhitās* that refer to his links with fertility-goddesses; invariably they center on his immoral incestuous intentions towards his own daughter *Rohiṇī*, he is also the presiding deity of that *nakṣtra*. Of the animals known for their virile power, *Prajāpati* is primarily a bull (also a horse). As per *Śatapatha-Brāhmaṇa* V. 2, 5, 17, ‘The bull is the *Prajāpati* among cows’. *Prajāpati* again is none other than *Agni* himself (*Yajñya*; *Śatapatha-Brāhmaṇa* II. 3, 3, 18); *Prajāpati* alias *yajñya* alias the year who moved backward to *Rohiṇī* (*Aitareya Brahmana*. iii. 33; Tilak 1893, p. 19). In a version of the story in *Śatapatha-Brāhmaṇa* II (1; I. 7, 4; MS 4. 2, 12), *Prajāpati* transformed himself into a roe-buck (antelope) to approach his own daughter who had become a doe to escape his advances. The gods create a divine being, *Bhutavat* (*Rudra*) out of their most fearful forms to punish him for his incestuous deed. When he was pierced by an arrow from *Bhutavat*, he bounded up to the sky where he became the *Mṛga nakṣatra* (*Mṛgaśiraṣa*; in the Orion) while his daughter became the adjacent *nakṣatra*–*Rohiṇī*. The arrow became ‘the three-knotted arrow’ or the girdle of *Mṛga* (the belt of Orion). We may add here that in a myth of creation of the Universe as a *yajña*, *Prajāpati* was *Gṛhapati* (head of the household) and *uṣās* his mistress.

Joshi (1972, pp. 101–125) states that the whole myth that we have dealt with here has clear origin in the hymns of *Yajurveda*. It is however interesting to note that the earliest origin of this myth is to be found in the tenth *maṇḍala* of *Ṛgvēda* (10.161.5–7) (Wilson, [1850–88] 1928, p.102).<sup>3</sup>

<sup>3</sup> *Anuvaka* V, X.5.1, 5–7 (*Ṛgvēda* 10.161. 5–7; as translated by Wilson [1850–88] 1928, p.102).

“5. (*Rudra*), the benefactor of man, whose eager virile energy was developed, drew it back when disseminated (for the generation of offspring); again the irresistible (*Rudra*) concentrates (the energy) which was communicated to his maiden daughter. 6. When the deed was done in mid-heaven in the proximity of the father working his will, and the daughter coming together, they let the seed fall slightly; it was poured upon the high place of sacrifice. 7. When the father united with the daughter, then associating with the earth, he sprinkled it with the effusion: then the thoughtful gods begot Brahma: they fabricated the lord of the hearth (of sacrifice); the defender of sacred rites.”



At this place in the text it would be proper to clarify the reference to *Mrga*. It denotes a wild animal in general in older Vedic texts that however do not exclude an antelope. In fact, the *Vṛṣākapi* hymn in *Ṛgveda* 10.86.3 (Tilak 1893, pp. 157–197) refers to “*Harita Mrga*”, yellow antelope; in addition, “and I shall, therefore, cut off his head, in order that an evil-doer may not enjoy happiness” (10.86.5) which is taken as referring to *Mṛgaśiraśa* (ibid., pp.181–2). The *nakṣatra*’s characterization as *Mṛgaśiraśa* has an early reference in *Yajurveda* (Gopal 1983, p. 210).

Thus from the Vedic references, *Mṛgaśiraśa* is *Prajāpati* himself whose deity is *Soma* (*Candra*, the Moon). Reading of the unicorn of the HC as a bull with an antelope’s head is thus strongly suggestive of the *Prajāpati* myth as quoted above. In one slight variation that has come down to us has *Prajāpati* transform into a bull (which is indeed his other identification) chasing the maiden *Rohiṇī*, his own daughter who had disguised herself as a cow to escape his lustful advances (misunderstood by *Rohiṇī* according to another rendering; she was so beautiful, *Prajāpati* wished to populate a beautiful world anew for posterity); so now she changes herself into a doe, and *Prajāpati* becomes a stag and so on; *Rudra* is also known as *Mṛgavyādha* (deer hunter; Sirius), the stuck arrow represents the Orion’s belt (Vahia 2011). This myth appears to echo the zodiac Stella depicting Satet and Sirius story from Dendera Temple in Egypt (Brosch 2008).<sup>4</sup>

We think that possibly there could be another way to interpret unicorn: *Uṣās*, the Dawn being overwhelmed by *Savitṛ* (remover of darkness, the Sun before the sunrise) as the Vernal Equinox sets in.<sup>5</sup> *Uṣās* is another manifestation of *Rohiṇī*; in the *Śatapatha Brāhmaṇa* (v. 12, 3,

5) *Savitṛ* has been identified with *Prajāpati* and in the *Taittirīya Brāhmaṇa* it is stated that *Prajāpati* after becoming *Savitṛ* created living beings (Joshi, 1972, pp. 101–125). *Mṛgaśiraśa* is then bull with the protome of the antelope doe—the incestual reading of *Prajāpati* desiring *Rohiṇī* as stated earlier; the single horn in an aggressive posture then perhaps representing the evil intention (Sect. 4.5).

### 4.3 On the standard as a *Soma* filter

In Sect. 2.2, we have briefly stated that Mahadevan considers the cult object as a Sacred Filter, with references from *Ṛgveda* and other Vedic texts as well as Avesta on the ritual of making *Soma* to support his interpretation: the upper vessel as a strainer and the lower hemispherical bowl as a sieve invariably showing droplets oozing out (Fig. 3). It may be pointed out here that the whole of the ninth *maṇḍala* of the *Ṛgveda* is in the name of *Soma* – *Soma Pavamāna*, ‘the flowing one’. *Soma* is the presiding deity of *Mṛgaśiraśa*. Undoubtedly, the cult object as *Soma* Filter associates well with *Mṛgaśiraśa* that is *Prajāpati* as unicorn. The reverence shown to the Sacred Filter as the procession scene on the Harappan seals clearly demonstrates (Fig. 4), that is to *Soma* through its maker (the Filter) in the context of this freshly discovered identity of the unicorn is then natural and logically consistent.

The dominating iconography of the intriguing unicorn presented with the standard on the Harappan seals now stands explained through the Vedic myths centered on *Prajāpati* as *Mṛgaśiraśa*.

### 4.4 Evidence from Harappan seal M-1171

In the Harappan inventory, there are seals that display composites of different animals. Very interesting supporting evidence for the interpretation of the unicorn as a Vedic myth concerning *Mṛgaśiraśa* comes from Harappan seal, M-1171. It depicts a composite bovine combining protomes of a bull, unicorn and gazelle (Fig. 6; CISI 2: 136; Parpola 2011) suggesting that each of the three animals joined together perhaps represents the primeval male at a particular time of the daily and/or yearly cycle]. In our reading wherein the natural foreparts of the bull (lower left) are removed and replaced with the protome of a gazelle (top right). The resulting image of a unicorn in the middle is complete with antlers replaced with a single antelope horn aggressively pointing ahead, the desire for *Rohiṇī* exposed as it were. We posit with strong conviction that this narrative further supports the unicorn as *Mṛgaśiraśa* myth of the Vedic age—neatly explained through iconography. It should be added here that the Harappan inventory additionally has a few more seals having similar iconography with varying finesse, some having text at the top as well. It should be of immense interest

<sup>4</sup> The Zend Avesta word for girdle (*aivyaonghanem*) actually translates as *kushiti*, a sacred thread of the Zoroastrians worn around the waist separating the upper torso. This provides a link to the Vedic *Prajāpati* as *Yajñya*: A belt or a girdle or a piece of cloth round the waist of Orion as *Yajñya*, *Yajñopavita* or *Upvita* as the cloth of *Yajñya* will naturally be named after him as *Yajñopavita*. All through the Subcontinent’s history the *upanayanam* ceremony mimics the Orion/*Mṛgaśiraśa* myth of the Indo-European era prior to the Iranian and Indian split (as per Tilak [1893] 2008)— where the newly initiated boy in the ritual is adorned with a *Mekhalā*, *ajinā* and *danda* (a girdle, skin and a staff); he becomes *Prajāpati*. *Mekhala* is a grass chord around the waist with three knots just over the navel— three stars of the belt of Orion; and when it is worn for the *Yajñya*, it is tied with a mantra as the knot dear to *Soma*. To become a Brahmin, is to imitate *Prajāpati*: *Prajāpati* assumed the form of a deer, so the boy is clothed in a deer-skin, *Prajāpati* has a girdle around the waist so the boy has *Mekhala* with three knots above the navel and *Prajāpati* has a staff so the boy has it too.

<sup>5</sup> An interpretation based on several studies (Prasanna, 2011; Tilak, 1893; Parpola, 2019 quoting Waber (1862–1863) and Jacobi (1894); & so on) appears to confirm the annual heliacal rising of *Rohiṇī* heralding the onset of the Vernal Equinox~3000 BCE from Vedic accounts.



to do a comparative study of the accompanying texts as they appear with the composites of the M-1171 kind.

#### 4.5 Unicorn horn

According to Marshall, notwithstanding the forward thrust, the “S” shape of the horn makes identification with antelope protome that much more formal, and so does the ear (Sect. 3). Significantly, the horn is characterized as a phallic symbol indicative of fertility, rain since prehistoric times (Parpola, 2018, pp. 435–444 for example); *Prajāpati*, the god of procreation, fits in here perfectly.

On the background of the astronomical myths around *Mṛgaśiraṣa* referred to, the single horn can be figuratively transposed on a section of the sky, starting from the *Mṛgavyādhā* (deer hunter; Sirius), through the three stars of the arrow (Orion’s Belt) and ending with *Rohiṇī* (Aldebaran; Fig. 5). In one variant of the *Mṛgaśiraṣa* myth, *Mṛgavyādhā* and *Rohiṇī* represent the deer piercer (Vahia 2011). This has a parallel with the myth behind the zodiac Stella from Dendera Temple in Egypt.<sup>6</sup>

#### 4.6 Saddle like pattern across the unicorn shoulder

Our hypothesis is that the Harappan unicorn is an expression of myths associated with *Mṛgaśiraṣa nakṣatra*. Given this premise, an explanation for the pattern across the shoulder should be sought in an associated myth if possible. This entire sub-section has a speculative air about it and fascinating at the same time as well. We follow Tilak (1893, pp. 143–146) from where the following summary has been extracted.

Briefly, carried over from a period before the Indo-Iranian split, Tilak finds a reference in the 26th verse of the very ancient Hoama Yasht of Avesta that mentions “star-bespangled girdle” –here the God has given a natural star-studded girdle to Hoama (*Soma*) which is none other than the Belt of Orion. Tilak connects this to Hindu rituals originating in the Vedic era through ages centered around the myths of *Prajāpati* as *Mṛgaśiraṣa*, to essentially parallel the Greek myth of the Orion saga related to the Belt of Orion—all

linked through a perceived common heritage from a bygone era. This girdle of *Mṛga* according to Tilak evolves in to aspects of *upanayana* ceremony that remain in practice on the Indian Sub-continent till date (Footnote 4).

We speculate that the saddle like pattern across the shoulder (Fig. 2, left box) in the unicorn iconography symbolizes the ‘the three-knotted arrow’, the ‘girdle of *Mṛga*’—at the joining of antelope protome (*Mṛgaśiraṣa*) with the torso of the bull (*Prajāpati*). To relate the trefoil patterned adornment across the left shoulder of the Harappan priest in parallel with the *Yajñopavita* (originally a strip of deer skin) of the *upanayana* ceremony to the ω-shaped shoulder cover of the unicorn is indeed tempting (the priest emulating *Prajāpati*?).

### 5 Concluding remarks

Showing that the Harappan unicorn cannot reasonably escape being a chimera, a bull with the protome of an antelope (Sect. 3), the myths around *Prajāpati* as *Mṛgaśiraṣa* become a paradigm for unraveling the enigma. The unicorn of the HC and the associated cult object on a very large proportion of the Harappan seals necessarily had certain reverence about it; the procession seals confirm this (Fig. 4). Now, when one studies the pertinent myths from the Vedic sources, the *Samhitās* and *Brāhmaṇas* in particular, centered on *Prajāpati* as the central deity (Sect. 4.2), not only the interpretation of unicorn as *Mṛgaśiraṣa* and the associated cult object as *Soma* Filter (Sect. 4.3) but also the horn (Sects. 4.5) and the saddle-like pattern around the unicorn shoulder (Sect. 4.6) follow notwithstanding a certain speculative air. A strong support perhaps comes from the Harappan seal M-1171 showing a composite animal with protomes of a bull, a unicorn and a gazelle affixed to the main body of a bull as a unicorn story (Fig. 5; Sect. 4.4).

When the unicorn took pole position as it were on the Harappan seals, it likely had to be something of an already existing myth; certainly it takes centuries to stabilize an association to be in a position to register the same in socio-cultural consciousness. It then also follows that among the seals showing obvious mythological motifs, at least some are likely to represent associated Vedic myths, and a text line if available on these seals may at least occasionally be descriptive of the same.

The repercussions of the assertions made in the present work are profound—they nail the pre-existence of the Vedic lore in the *Sapta-Sindhu* region as the HC entered Mature Phase. If some of this holds, then most conservatively at least some of the contextual matter covered in Vedic *Samhitās* and *Brāhmaṇas* is likely to have a thread running through the Harappan civilization.

<sup>6</sup> Sirius (*Mṛgavyādhā*) and Orion (*Mṛgaśiraṣa*) both have bow and arrow myths associated with them. One zodiac Stella from Dendera Temple in Egypt, on display in Louvre records astronomical events of ~50 BCE, that shows Sirius in the form of a five-pointed star between the horns of a celestial cow carried in a boat; the boat is followed by the goddess Satet (also known as antelope goddess wearing a pair of long antelope horns and goddess of fertility) with a bow and arrow pointed at Sirius (Brosch 2008). Orion is also a lover of Goddess Dawn (Aldebaran) and has a dog (Sirius) as companion—all this has parallels in the Vedic mythology wherein *uṣās* (the Dawn) is another description for *Rohiṇī* (Aldebaran).





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## References

- Brosch, N. (2008). *Sirius matters*. Springer.
- Frenez, D. (2017). Private person or public persona? Use and significance of standard Indus seals as markers of formal socio-economic identities. In Frenez, D., Jamison, G. M., Law, R. W., Vidale, M., Meadow, R. H. (Eds.), *Walking with the unicorn: Social organization and material culture in Ancient South Asia: Jonathan Mark Kenoyer Felicitation Volume* (pp. 166–193). Archaeopress Publishing Ltd.
- Gopal, R. (1983). *The history and principles of vedic interpretations* (p. 210). Concept Publishing Company.
- Joshi, J. R. (1972). Prajāpati in vedic mythology and ritual. *Annals of the Bhandarkar Oriental Research Institute*, 53(1/4), 101–125. <https://www.jstor.org/stable/41688766>
- Kalyanaraman, S. (2016). *Importance of Mari Victory Procession with 'Unicorn' Standard, Indus Script Hypertext, Gold for Ornaments* (p. 58). Academia posted pdf.
- Kenoyer, J. M. (2010). Measuring the Harappan world: Insights into the Indus order and cosmology. In Iain Morley & Colin Renfrew (Eds.), *The archaeology of measurement: Comprehending Heaven, Earth and Time in Ancient Societies*, Cambridge, New York: Cambridge University Press. Kenoyer 2010 Measuring the Harappan World.pdf
- Kenoyer, J. M. (2013). Iconography of the Indus unicorn: Origins and legacy. In S. Abraham, P. Gullapalli, T. Raczek, & U. Rizvi (Eds.), *Connections and complexity, new approaches to the Archaeology of South Asia*. Walnut Creek: Left Coast Press.
- Mahadevan, I. (1981–1983). The cult object on unicorn seals: A sacred filter. In K. N. Dikshit (Ed.), *Archaeological, perspective of India since independence, Puratatva, Numbers 13 & 14*.
- Mahadevan, I. (1998). An Interview with I Mahadevan by Webmaster Omar Khan. Harappa.com, 1995–2020.
- Marshall, J. (1931). *Mohenjo-daro and the Indus Civilization*. Arthur. Probsthain. Referenced from Harappa, [www.harappa.com](http://www.harappa.com) › slide 23› so-called-unicorn. © Harappa.com 1995–2020
- Parpola, A. (2011). The Harappan unicorn in Eurasian and South Asian perspectives, occasional paper 12. In Osada, T. & Endo, H. (Eds.), *Linguistics, archaeology and the human past*. Kyoto, Japan: Indus Project, Research Institute for Humanity and Nature.
- Parpola, A. (2018). Unicorn bull and victory parade. In Frenez, D., Jamison, G. M., Law, R. W., Vidale, M., & Meadow, R. H. (Eds.), *Walking with the unicorn: Social organization and material culture in ancient South Asia: Jonathan Mark Kenoyer Felicitation Volume*. Oxford: Archaeopress.
- Possehl, G. L. (1996). *Indus age: The writing system*. University of Pennsylvania.
- Prasanna, T. R. S. (2011). Ancient Indian Astronomy and the Aryan Invasion Theory. *IJHS*, 46(4), 573–610.
- Rao, S. R. (1982/1991). *The Decipherment of the Indus Script*. Bombay: Asia Publishing House.
- Tilak, B. G. (1893). *The Orion, or, Researches into the Antiquity of the Vedas*. Tilak Bros, Poona. Reprint edition 2008.
- Vahia, M. (2011, January). Astronomical myths in India. In N. Kaifu (Ed.), *Contributed to the book stars of Asia*. Japan.
- Wilson, H. H. (1928). *Rig Veda Sanhita*. Poona: Ashtekar & Co.

